

I claim:

1. A wireless communication device, comprising:  
5 a plurality of antennas; and  
a predictive antenna selector that evaluates a signal quality of each of said plurality of antennas and selects an antenna to communicate one or more frames based on said signal quality evaluation.
- 10 2. The wireless communication device of claim 1, wherein said predictive antenna selector evaluates a signal quality of each of said plurality of antennas during a preamble portion of a frame.
- 15 3. The wireless communication device of claim 1, wherein said predictive antenna selector evaluates a signal quality of each of said plurality of antennas for up to an entire frame duration.
- 20 4. The wireless communication device of claim 1, wherein said predictive antenna selector removes a given antenna from said evaluation if said given antenna fails to satisfy predefined criteria.
- 25 5. The wireless communication device of claim 4, wherein said predefined criteria evaluates whether a signal quality of a given antenna is below a signal quality of a remainder of said plurality of antennas by a predefined amount.
6. The wireless communication device of claim 4, wherein a signal quality of said removed antenna is subsequently evaluated to determine when to return said removed antenna to said plurality of antennas that are evaluated.

7. The wireless communication device of claim 1, wherein said signal quality of said plurality of antennas is recorded in a table.

8. The wireless communication device of claim 1, wherein said predictive antenna selector evaluates said signal quality of each of said plurality of antennas in a round robin manner.

9. The wireless communication device of claim 1, wherein said predictive antenna selector evaluates said signal quality of each of said plurality of antennas in a random order.

10. The wireless communication device of claim 1, wherein said predictive antenna selector evaluates said signal quality of each of said plurality of antennas based on a schedule.

11. The wireless communication device of claim 1, wherein said device is implemented in accordance with an IEEE 802.11 Standard.

12. The wireless communication device of claim 1, wherein said predictive antenna selector selects an antenna based on a signal quality evaluation of at least a portion of one prior frame.

13. A method for wireless communication on one of a plurality of antennas, comprising the steps of:

evaluating a signal quality of each of said plurality of antennas; and

selecting an antenna to communicate one or more frames based on said signal quality evaluation for at least one prior frame.

14. The method of claim 13, wherein said evaluating step evaluates a signal quality of each of said plurality of antennas during a preamble portion of a frame.

15. The method of claim 13, wherein said evaluating step evaluates a signal quality of each of said plurality of antennas for up to an entire frame duration.

16. The method of claim 13, wherein said selecting step removes a given antenna from said evaluation if said given antenna fails to satisfy predefined criteria.

17. The method of claim 16, wherein said predefined criteria evaluates whether a signal quality of a given antenna is below a signal quality of a remainder of said plurality of antennas by a predefined amount.

18. The method of claim 13, further comprising the step of recording said signal quality of said plurality of antennas in a table.

19. The method of claim 13, wherein said evaluating step evaluates said signal quality of each of said plurality of antennas in a round robin manner.

20. The method of claim 13, wherein said evaluating step evaluates said signal quality of each of said plurality of antennas in a random order.

21. The method of claim 13, wherein said evaluating step evaluates said signal quality of each of said plurality of antennas based on a schedule.

22. The method of claim 13, wherein said method is implemented in accordance with an IEEE 802.11 Standard.

23. A predictive antenna selector for use in a wireless communication device, comprising:

means for evaluating a signal quality of a plurality of antennas; and

means for selecting an antenna to communicate one or more frames based on said signal quality evaluation for at least one prior frame.

24. The predictive antenna selector of claim 23, wherein a given antenna is removed from said evaluation if said given antenna fails to satisfy predefined criteria.

- 5 25. The predictive antenna selector of claim 24, wherein said predefined criteria evaluates whether a signal quality of a given antenna is below a signal quality of a remainder of said plurality of antennas by a predefined amount.